

## Comparative Study on Perinatal Depression among Normal and High-Risk Pregnant Women

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### ABSTRACT

**Background:** Mental health is a crucial part of overall wellbeing. It is estimated that 7% to 20% women are suffering from depression during pregnancy. Depression mainly affects the women during perinatal period. If it is not treated properly in early stage of pregnancy it leads to post-partum depression and can affect fetal development also.

**Methods:** Quantitative approach with non-experimental comparative research design was adopted to study the perinatal depression among normal and high-risk pregnant women. The study was conducted in antenatal OPD of IMS & SUM Hospital, Bhubaneswar, Odisha. Hundred normal pregnant women and 100 high risk pregnant women were selected purposively. The tools used to collect the data were 1. Socio-demographic questionnaire, 2. Beck depression Inventory. The data were entered and analysed in SPSS version 20.

**Result:** Almost one third from normal (32%) and high-risk pregnant women (36%) had mild mood disturbances. Equal and 5% of women from normal and high-risk pregnant women had border line clinical disturbance and equal and 2% of normal and high-risk pregnant women had moderate depression. It can be interpreted that almost one third of women had different levels of depression. There was no difference found in the level of depression between normal and high-risk pregnant women.

**Conclusion:** Depression during pregnancy is the major health problem among reproductive aged women. If it is not treated properly in early stage of pregnancy, it becomes post-partum depression and can affect fetal development also. So, health care professional shall be expert in the assessment and screening of antenatal mother about depression during each antenatal visit and take appropriate as required.

**KEYWORDS:** Comparative Study, Perinatal Depression, Normal Pregnant Women, High-risk Pregnant Women

### INTRODUCTION

Pregnancy is a wonderful experience in a women's life and she spends each and every day in pleasant anticipation, waiting to hold her bundle of joy in her arms at the end of the nine months. It is a time of great happiness and fulfilment of the life of a mother. But sometimes occurrence of risk or complication shatters the dream of the pregnant women. The World Health Organization (WHO) reported that around 830 women die every day from problems in pregnancy and child birth.<sup>1</sup>

Mental health is a crucial part of overall wellbeing. Most of the women experiencing mental health disturbances during pregnancy. If the women had severe mental illness in the past, or it during pregnancy, the women is more likely to become mentally ill during pregnancy or in the year after giving birth. Depression is one of the most important mental health problems during pregnancy.<sup>2</sup>

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World Health Organization (WHO) estimates that by 2020, the depressive disorders will be the second leading causes of global disease burden, and rate of depression in women of reproductive age are reported to be twice than in men.<sup>3</sup>

In pregnancy the prevalence of depression appears to vary depending on countries degree of development. Studies shows that the prevalence rate are lower around 10% to 15% in developed countries such as US, UK, Canada and Sweden and 25% in developing countries.<sup>4</sup>

Depression mainly affects the women during perinatal period. If it is not treated properly in early stage of pregnancy it leads to post-partum depression and can affect fetal development also. It is estimated that 7% to 20% women are suffering from depression. Antenatal depression affects about one in every eight women.<sup>5</sup>

Some expected cause of antenatal depression is poor socio-economic status, difficulty in becoming pregnant, unplanned pregnancy, family disturbances, stress, mood swing, sadness, irritability, pain, poor relationship between husband and wife, abortion, hormonal imbalance, low self-esteem etc. Depression in pregnancy can affect a mother's functional status and cause cognitive distortions that affect her decision- making capacities. Severe depression carries a risk of psychosis and self-injurious and impulsive behaviour.<sup>6</sup>

High-risk pregnancies can exacerbate depression and anxiety. High-risk pregnancies are at the increased risk of having depression and the subsequent adverse neonatal outcomes. Purposeful ignorance of the symptoms of depression is a major factor to raise the

complication in their later life and for the delivery of the foetus too.<sup>7</sup> Therefore, the first step would be an assessment of the problem. Very few studies were conducted in India on depression during pregnancy. And the researcher assumed that there is a difference in the depression level among normal and high-risk antenatal women. Hence, the present study is contemplated to compare the depression level between the normal and high-risk pregnant women, which will help to intervene further.

### Methods and Materials:

Quantitative approach with non-experimental comparative reserch design was adopted to compare the perinatal depression among normal and high-risk pregnant women. The study was conducted in antenatal OPD of IMS & SUM Hospital, Bhubaneswar, Odisha. The main objective of the study was to compare the depression level among women with normal pregnancy and high-risk pregnancy attending antenatal OPD. Hundred normal pregnant women and 100 high risk pregnant women were selected purposively. Pregnant women willing to participate in the study, present during data collection period and understand Odia language were included in the study. Pregnant women with any type of mental disorder were excluded from the study. Coopland's high risk scoring system was used to identify the high-risk women. Pregnant women scored 0-2 considered as normal and scored 3 and more are considered as high risk. The tools used to collect the data were 1. Socio-demographic questionnaire, 2. Beck depression Inventory to assess the level of depression. The data were entered and analysed in SPSS version 20 according to the objectives.

### Results:

**Table No1:Distribution of demographic characteristics of normal and high-risk pregnant women.**

**N = 200**

S. No	Socio demographic data	Normal pregnancy (F & %)	High risk pregnancy (F & %)
1.	<b>Age</b>		
	20-25	48	41
	26-30	37	35
	>30	15	24
2.	<b>Education of mother</b>		
	No formal education	04	00
	Primary	13	13
	Secondary	14	18
	Higher secondary	36	35
	Graduate and above	33	34
3.	<b>Occupation</b>		
	House wife	87	91
	Working	13	09

4.	<b>Occupation of husband</b>		
	Government	26	21
	Private	25	30
	Self-employee	49	49
5.	<b>Types of family</b>		
	Nuclear	47	34
	Extended	04	15
	Joint	49	51
6.	<b>Total monthly income</b>		
	<25000	39	26
	25000-50000	42	48
	>50000	19	26
7.	<b>Types of residence</b>		
	Rural	54	57
	Urban	46	43
8.	<b>Duration of married life</b>		
	<3Yrs	54	39
	3-6Yrs	36	54
	7-9Yrs	08	03
	10-12Yrs	02	04
9.	<b>Marital disharmony</b>		
	Yes	0	0
	No	100	100
10.	<b>Gestational age</b>		
	<20 Weeks	13	08
	20-30 Weeks	32	23
	>30Weeks	55	69
11.	<b>Gravid</b>		
	G1	60	34
	G2	32	31
	G $\geq$ 3	08	35
12.	<b>Abortion</b>		
	A0	68	59
	A1	26	17
	A $\geq$ 2	06	24
13.	<b>Mode of delivery</b>		
	Normal delivery	13	15
	Caesarean delivery	03	26
	Not deliver yet	84	59
14.	<b>BMI</b>		
	Normal	28	20
	Over weight	41	32
	Obese	31	48
15.	<b>Haemoglobin</b>		
	<11Mg/dl	27	40
	$\geq$ 11Mg/dl	73	60
16.	<b>Blood pressure</b>		
	Hypotension	13	07
	Normotension	87	67
	Hypertension	00	26

Table No 1 shows the demographic characteristics of normal and high-risk pregnant women shows that highest percentage of the women from normal (48%) and high-risk pregnant women (41%) belongs to the age group of 20-25 years. Highest percentage of the women from the normal (36%) and high risk (35%) pregnant women had

higher secondary education. Most of the normal (87%) and high-risk pregnant women (91%) were housewives. Highest percentage of normal (49%) and high-risk pregnant women (51%) were living in joint family. Highest percentage of women had family monthly income of 25000-50000 Rs both in normal (42%) and high risk (48%) group. Highest percentage of women from normal (54%) and high-risk pregnancy (57%) residing in rural area.

Duration of married life shows that highest and similar percentages (54%) of women from normal and high-risk pregnancy had <3 years and 3-6 years respectively. All the women (100%) from both the groups had no marital disharmony. Highest percentage of normal (55%) and high-risk pregnant women (69%) were belongs to >30 weeks. Highest percentage of women from (60%) of normal pregnancy were primi gravida and high-risk pregnancy (35%) were  $G \geq 3$ . The history of abortion shows that 26% of normal pregnant women and 17% of high-risk pregnant women had one abortion. Followed by 6% of normal and 24% of high-risk pregnant women had two or more abortions. Highest percentage of women from both the groups were not delivered yet.

Regarding BMI of mother, highest percentage of normal pregnant women (41%) were overweight, whereas high risk pregnant women (48%) were obese. About haemoglobin level 27% from normal and 40% from high-risk pregnant women anaemic. Regarding blood pressure of mother, highest percentage normal pregnancy (87%) and high-risk pregnant women (67%) belongs to normotension, whereas 26% of high-risk pregnant women were hypertensive. And 13% of normal pregnant women and 7% of high-risk pregnant woman werehypotensive.

**Table No2: Distribution of level of depression among normal and high-risk pregnant women**  
N = 200

S. No	Level of Depression	Score Range	Normal pregnant women (F & %)	High-risk pregnant women (F & %)
1	Normal	1-10	61	57
2	Mild mood disturbances	11-16	32	36
3	Borderline clinical depression	17-20	5	5
4	Moderate depression	21-30	2	2
5	Severe depression	31-40	0	0
6	Extreme depression	>40	0	0

Table No2 shows the level of depression among normal and high-risk pregnant women. According to Beck's depression inventory, highest percentage of women from normal pregnancy (61%) and high-risk pregnancy (57%) had no depression, followed by 32% from normal pregnancy and 36% from high-risk pregnancy had mild mood disturbances. Equal and 5% of women from normal and high-risk pregnant women had border line clinical disturbance and equal and 2% of normal and high-risk pregnant women had moderate depression. There were no women had severe and extreme depression. It can be interpreted that almost one third of women had different level of depression. There was no difference found in the level of depression between the normal and high-risk pregnant women.

**Table No 3: Comparison of depression level among normal and high-risk pregnant women**  
N = 200

S. No	Group	Mean $\pm$ SD	t value	P value
1	Normal pregnancy	09.09 $\pm$ 4.627	1.578	0.422
2	High risk pregnancy	10.11 $\pm$ 4.510		

TableNo3 shows the comparison of depression level among normal and high-risk pregnant women. The mean depression score in women with normal pregnancy is  $09.09 \pm 4.627$  and high-risk pregnancy is  $10.11 \pm 4.510$ . The t value is 1.578 and P value is 0.422. There was no significant difference found in the depression level of normal and high-risk pregnant women at the level of  $P \leq 0.05$ . Hence it can be interpreted that pregnant women from both the groups were affected with depression equally.

Chi square test was computed to find the association between the level of depression and selected variables

of the normal pregnant women and high-risk pregnant women. There was no significant association found between the level of depression and selected variables of normal pregnant women except the variable's educational status (0.005), duration of married life (0.11), blood pressure (0.002) and history of medical disorder (0.002). Hence, it can be interpreted that there was no association found between level of depression and most of the variables of the normal pregnant women.

There was no significant association found between the level of depression and selected variables of high-

risk pregnant women except the variables educational status (0.025), occupation of husband (0.004), types of family (0.001), residence (0.001), gestational age (0.039), and abortion (0.045). Hence, it can be interpreted that there was no association found between level of depression and most of the variables of the high-risk pregnant women.

### Discussion:

Present study stated that almost one third of women had different levels of depression. There was no difference found between normal and high-risk pregnant women. Anindyajati et al stated in his study that antenatal depression occurred in 15% among pregnant women. The risk for antenatal depression was five times higher in pregnant women with poor social support (OR:4.79,95%, CI 1.18-19.43, p=0.028) and 14 times higher than those with stress (OR:14.04, 95%, CI11-81.97, p=0.003).<sup>6</sup>

Fadzil A et al stated in his study that the prevalence of anxiety and depression disorder among antenatal mothers using diagnostic clinical interview were 9.1% and 8.6%. Factors associated with antenatal anxiety were marital status (being unmarried), positive history of mental illness, gestational age (<20weeks), unplanned pregnancy and depressive co-morbidity. However, only gestational age<20 weeks and depressive disorder remained the significant factors in the multivariate analysis.<sup>8</sup>

Murtaja EF et al stated that 33.3% of the pregnant women showed moderate and 18.5% showed severe depression according to the Beck Depression Inventory. Women living in refugee camps were the more often reported clinical cases of depression. Depression and anxiety symptoms were closely associated with each other. The results showed that 6.3% of women experienced co-morbid depression and anxiety.<sup>9</sup>

Ajinkya S et al stated that the prevalence of depression during pregnancy was found to be 9.18%. It was significantly associated with several obstetric risk factors like gravidity (p=0.0092), unplanned pregnancy(p=0.0019), history of abortion(p<0.0001) and a history of obstetric complication, both present (p =0.0001) and past(p=0.0001).<sup>10</sup>

Srinivasan N stated in their study that among 100 participant, 65% of participant had scored 13 or higher on EPDS. Majority of the participant (66%) had been bothered due to low feeling, depressed or hopelessness during the previous month. Enriched marital satisfaction scale (p=0.025) had shown significant association with EPDS.<sup>11</sup>

Podvornik N stated that 21.7% of pregnant women were identified as suffering from elevated depression

symptomatically, 15.7% reported high state anxiety and 12.5% had high state depression and no significant difference between depression and anxiety were found. Those who are suffering from depression during previous pregnancy showed higher state of anxiety in current pregnancy. Thus, the elevated depression and anxiety are more prevalent among pregnant women which need early detection.<sup>12</sup>

Silwal M et al stated that 8%had severe level of anxiety, 22% had moderate and 70% had mild level of anxiety. Between them 3% subjects had severe depression, 19%had moderate depression and 78% had mild level of depression. There was a significant association between level of depression and selected baseline variables like number of pregnancies, no. of abortion, history of depression and history of counselling.<sup>13</sup>

### Conclusion

Present study reveals that almost one third of women had different level depression. Anxiety and depression during pregnancy are the major health problem among reproductive aged women. If it is not treated properly in early stage of pregnancy it leads to post-partum depression and can affect fetal development also. This finding suggests the need of training the doctors and nurses regarding the assessment and screening of antenatal mother about depression during each antenatal visit and take measures immediately and appropriately as required.

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